

bacteriology the study of morphology is as important as any other side of the subject.

Turning to the description of actinomycosis and anthrax, we are surprised to find McFadyean taken as the guide in the former. Why is not the author his own guide? Or why does he not, at least, use the recent results of Boström? Then in "anthrax" it is stated "that at the point of inoculation in animals there is usually no evidence at all that it has been the point of entrance of the bacilli." This is scarcely compatible with a thorough knowledge of this familiar organism.

Again, in the opening chapter, a number of bacteriologists' names are mentioned. We think the author hardly does justice to those of our own country, for amongst the four names placed by the author in honourable association with the great name of Sir Joseph Lister, neither Lankester, nor Tyndall, nor Lawes and Gilbert, nor Wooldridge, nor Lingard, finds a place. And yet not only are these amongst our highest authorities, but the observations of Lankester and the experiments of Wooldridge constitute cardinal points in the history of bacteriology.

Lastly, the question of illustrations is a difficult one. There are very many photographic processes to choose from, and considering that there are only 20 illustrations, the author might have employed collotypes (compare Fränkel's atlas) or copper blocks; or, having used zinc blocks, should have had them printed on separate sheets, for it ought to be more generally known that it is of no use expecting a good impression from blocks of this description when printed on ordinary paper and in the text.

OUR BOOK SHELF.

Our Country's Flowers. By W. J. Gordon. (London: Day and Son, 1891.)

THIS volume is intended to aid beginners to ascertain the botanical name of any British wild flower or fern with which they may meet. After a list of local English plant-names, the serious work of the book begins with an explanation of how plants are classified, interwoven with which are a sufficient number of the terms used in describing plants to make the book "not too technical, but just technical enough" for the reader who desires to have a "nodding acquaintance" with the wild flowers of his own country. This is given first in a chatty style, and then repeated in a convenient tabular form. Next, the essential characters of the natural orders are given, after which the buttercup order, or Ranunculaceæ, is treated of at some length as a pattern of how identifications can be made. This is followed by a glossary of botanical terms, in some of which, in attempting a condensed and popular style, the writer has somewhat distorted the meaning. "Cambium" is erroneously described as a layer of mucilage, instead of a tissue. The characters of the natural orders are again stated, this time in alphabetical sequence, followed by a chapter on the genera, each of which is accompanied by a woodcut, intended to show its diagnostic character, but it is doubtful whether (at least in some of the orders) this is accomplished, as is also the case with some of the specific diagnoses with which the volume closes.

In the 33 coloured plates 509 species are depicted. This crowding is unsatisfactory, and tends to obscure what might otherwise be very useful. The figure on plate 23, numbered 388, may possibly be intended for 368, the stinging-nettle, or it may be some abnormal

state of the inflorescence of a grape-vine. *Centranthus ruber* (204) and *Plantago lanceolata* (346) are also wonderful specimens of those plants. The artist, apparently, is amongst those who do not regard colour (unless it be the quantity thereof) as of value in discriminating species. The volume will, nevertheless, be a pleasant and useful companion to many during a country holiday, and, with the author, we hope will lead on to deeper study.

C. H. W.

A Summary of the Darwinian Theory of the Origin of Species. By Francis P. Pascoe, F.L.S., &c. (London: Taylor and Francis, 1891.)

IT is difficult to understand why the author of this pamphlet should think it worth while to remind his readers periodically that he is an opponent of Darwinism. Some space was recently devoted in these columns to the consideration of a book on the same subject by Mr. Pascoe, and the present production is nothing more than an abstract of this work, delivered in the form of an address to the Western Microscopical Club. We have no new facts nor arguments; there is the same lamentable display of misconception, and the author has simply strung together some sixteen pages of excerpts from the writings of Darwin and others, without any attempt at connected reasoning either for or against the Darwinian theory. The author's position is practically this: here is the whole animal kingdom, consisting of about 600,000 species; you must explain every detail of specific structure, down to the most insignificant, by the theory of natural selection; if you cannot do this, the theory is untenable. The whole of Mr. Pascoe's writings in connection with Darwinism amount to this, and nothing more; he has reiterated this statement, if not literally, at any rate in spirit, on every available opportunity for the last twenty years. The present pamphlet will, let us hope, for the sake of the author's reputation, be the last declaration to the same effect, for there is surely nothing gained either by Darwinism or anti-Darwinism by squandering the systematic powers which he is known to possess in picking out scraps of sentences from the "Origin of Species," &c., and publishing these things "of shreds and patches" under grandiloquent and misleading titles.

R. M.

The Business of Travel: a Fifty Years' Record of Progress. By W. Fraser Rae. (London: Thomas Cook and Son, 1891.)

THIS year the well-known firm of Thomas Cook and Son celebrate their fiftieth anniversary, and Mr. Fraser Rae has taken the trouble to write the present work in order to mark the occasion. The firm, it seems, had very small beginnings. Its history may be said to date from the day when, in 1841, Mr. Thomas Cook, walking along a country road, suddenly reflected that a certain temperance meeting at Loughborough would probably be a brilliant success if a special excursion train could be run between that place and Leicester. Apparently, no such thing as a special excursion train had ever before been heard of. The idea was carried out, and attracted so much attention that Mr. Cook—who was at that time a wood-turner—was often asked afterwards for advice in the organizing of railway excursions; and by and by he devoted himself wholly to the task of developing "the business of travel." His son has been for many years the sole managing partner, but to the elder Mr. Cook belongs the credit of having conceived the system with which his name is now associated. To what vast proportions the system has grown everyone knows; but there are probably few who know much about the various stages through which it has advanced to its present position. Mr. Fraser Rae tells the story clearly and effectively, and most readers, when they have finished his narrative, will be disposed to agree with him in thinking

that the jubilee of a firm which has played so prominent a part is an event of interest in the social history of the nineteenth century. Messrs. Cook, by their energy and enthusiasm, have given a powerful stimulus to the popular love of travel; and they may fairly claim that their establishment ranks to some extent among the influences which are tending to break down international prejudices.

LETTERS TO THE EDITOR.

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The Albert University.

I DESIRE to associate myself with Prof. Carey Foster and, to a great extent, with Prof. Ray Lankester in the statements made and the opinions expressed by them in your last issue. Present circumstances force me to do so as briefly as possible; but I should be the less satisfied to keep altogether silent because I had something to do with the drafting of the "Albert" charter in 1887.

For my part, that draft was never regarded as an effective solution of the problem of a University for London. I thought of it only as a handy weapon for forcing the appointment of a Royal Commission, and for shaking the London University Senate out of its happiness in the steady increase of untaught candidates for degrees.

A Commission was extorted; and it had the impartiality, at least, of ignorance. Its inquiry was short and hurried, yet it learned enough of what had been done for academic organization by the London Colleges, during sixty years, to condemn the sufficiency and self-sufficiency of the London University. That the Commission, notwithstanding, should first give the London University an opportunity of transforming itself for London's good, was natural and proper in all the circumstances.

We know what followed. The London University Senate was slow, very slow, to move at all towards meeting the London Colleges. But at last it woke up, and then after a time began to display a novel spirit of conciliation. Fifteen months ago, a real accommodation seemed to have been attained between the Councils of the Colleges on the one hand and the University Senate on the other. Even when the Senate thereafter, yielding to an irrelevant clamour from Provincial Colleges, decided to give these also a direct representation (in the teeth of the Commission's instruction and without warning to the London Colleges), I was one of those who here were still willing to try what could be made of the top-heavy and lumbering scheme. But trial there was never to be; for Convocation, which probably would reject any measure of reform, gathered itself up and made swift end of this one.

It looks now as if the "Albert University" were straight-way to be upon us instead. I will not inquire into the agencies that have brought this result into such near view. Nor will I in your columns follow up my present and my late colleague's arguments against the prospective creation with others that seem to me of serious import. But I may be allowed to endorse emphatically what Prof. Lankester has said as to the absence of sanction by the professorial body here to the "Albert" draft charter. And nothing could be more to the point than Prof. Foster's observation that the "Albert" scheme has never been submitted to a meeting of the Governors of the College—which means, to the College as a corporate body.

Prof. Lankester is clearly right in contending that the whole question should now have been, or should still be, referred back to the Commission. I must, however, as a Scot, remark upon his assumption that the Northern Universities are professorially governed—free especially (as he urged in a former letter) from the mischievous lay influence of mere graduates. The fact is, that, ever since 1860, graduates, in "General Council" and also by direct representation in the "University Court," have not been without voice or influence; while, by the later reform of the other year, not only is graduate and other lay influence increased, but also the professorial powers of general management are largely diminished or even (as respects finance, &c.)

abolished. There were more reasons than evidently Prof. Lankester knows of for curtailing the old professorial supremacy in Scotland. But it does not follow that in England, and more especially in London, there should not be a much franker recognition of professorial (that is, expert) knowledge of educational ends and means than appears in the "Albert" draft charter.

G. CROOM ROBERTSON.

University College, London.

P.S.—Since these remarks were put in print, a decision of the Privy Council has been announced in favour of an "Albert" (or "Metropolitan") University. They lose, therefore, most of whatever interest they may have had; but they may still appear, so far as I am concerned, if the Editor pleases. I regret the decision, and think the promoters of it may yet have reason to wish that their action had been less hurried. At the same time, one may acknowledge the remarkable energy and fertility of resource with which the enterprise has been conducted to its thus far successful issue.—G. C. R.

IF I may be allowed another word on this subject, I should like to say that, having been all along a keen advocate of the establishing of a strong professorial University in London, not necessarily in slavish imitation of the German system (of which I happen to know something), but combining the main features of its professoriate (of which I think I showed my appreciation in a paper read at Bath in 1888, before Section B of the British Association) with the essential elements of the present University of London, and believing that the draft charter of the Senate, which was presented to Convocation, contained in it the potentialities, out of which (with the exercise of a little common-sense to soften down such asperities as might cause friction in its initiatory working, together with a little patience to allow for the time necessary in all evolutionary changes) a strong professorial University could be developed, I voted for the Senate's scheme, and still think the adverse vote of Convocation the greatest disaster that has befallen the University in the half-century of its existence.

Of all the bitter things said by Prof. Lankester in his former letter, nothing was more to the point than his sarcastic challenge to the existing University to reform itself, if it can, with the "dead weight of graduates tied round its neck, and called Convocation." But must an institution, which has admittedly done so much good, be swamped because of the accident of a flaw in its constitution? Is there no power to remove this mill-stone from its neck? If anything can exceed one's admiration for Prof. Lankester's candour in penning the letter, which appears in NATURE this week (July 9, p. 222), it is the satisfaction one must feel at finding that the projected repetition of "federal futility" which is at present in a state of incubation at the Council Office, has no attraction for him. It is to be hoped that the main question will be referred back to the Royal Commission, and that the Commissioners will give such advice to the "powers that be," that the shortsighted decision of Convocation may be overruled, as Prof. Lankester has suggested twice over, and that (to use the words spoken to me, the morning after the vote, by a distinguished Oxford man, whose academical experience no one could challenge) "the Government will take up the matter, and pass an Act doing what sensible people wish to see done," by co-ordinating and harmonizing, instead of segregating, the present machinery for higher education in the metropolis, including the great medical schools.

Prof. Karl Pearson's idea of the "fusion" of the two Colleges (see NATURE, June 4, p. 102), as distinct from "federation," is splendid in theory; but will it work? Can the fluxing material be found, which shall make the iron and the clay inter-fuse without either Gower Street or Somerset House, or both, sacrificing those traditions which are the strongest element in that individuality which each values so highly and both seem so anxious to conserve?

A. IRVING.

Wellington College, July 10.

Name for Resonance.

ALTHOUGH inadvisable as a rule to correct errors in a report for which one is not responsible, there is one little mistake on p. 238 this week, which, uncorrected, may lead to the extinction of a useful suggestion.

In discussing the subject of "electric resonance" recently at Cambridge, I found that the term conveyed no correct meaning